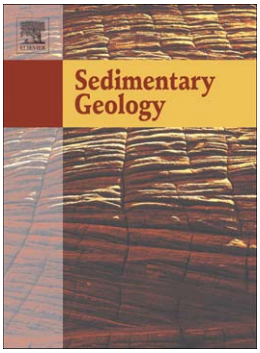

Anatomy and dimensions of fluvial crevasse-splay deposits: Examples from the Cretaceous Castlegate Sandstone and Neslen Formation, Utah, U.S.A.

C. Burns, N.P. Mountney, D.M. Hodgson, L. Colombera

PII: S0037-0738(17)30024-6
DOI: doi:10.1016/j.sedgeo.2017.02.003
Reference: SEDGEO 5161

To appear in: *Sedimentary Geology*

Received date: 1 December 2016
Revised date: 31 January 2017
Accepted date: 2 February 2017

Please cite this article as: Burns, C., Mountney, N.P., Hodgson, D.M., Colombera, L., Anatomy and dimensions of fluvial crevasse-splay deposits: Examples from the Cretaceous Castlegate Sandstone and Neslen Formation, Utah, U.S.A., *Sedimentary Geology* (2017), doi:10.1016/j.sedgeo.2017.02.003

Anatomy and dimensions of fluvial crevasse-splay deposits: examples from the Cretaceous Castlegate Sandstone and Neslen Formation, Utah, U.S.A.

Burns, C., Mountney, N.P., Hodgson, D.M., and Colombera, L.

Fluvial and Eolian Research Group, School of Earth and Environment, University of Leeds, Leeds, LS170AN, UK

Email:ee09ceb@leeds.ac.uk

Abstract

Crevasse-splay deposits form a volumetrically significant component of many fluvial overbank successions (up to 90% in some successions).Yet the relationships between the morphological form of accumulated splay bodies and their internal facies composition remains poorly documented from ancient successions. This work quantifies lithofacies distributions and dimensions of exhumed crevasse-splay architectural elements in the Campanian Castlegate Sandstone and Neslen Formation, Mesaverde Group, Utah, USA, to develop a depositional model. Fluvial crevasse-splay bodies thin from 2.1 m (average) to 0.8 m (average) and fine from a coarsest recorded grain size of lower-fine sand to fine silt away from major trunk channel bodies. Internally, the preserved deposits of splays comprise laterally and vertically variable sandstone and siltstone